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The JOURNAL of GEOGRAPHY

VOLUME LI SEPTEMBER, 1952 NUMBER 6

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The JOURNAL *of* GEOGRAPHY

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Professor Cressey, Department of Geography, Syracuse University, is an internationally known geographer and an authority on the geography of Asia. During the past year he has been president of the International Geographic Union. His best-known book is *Asia's Lands and Peoples.*

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Mrs. James is a frequent contributor to the JOURNAL OF GEOGRAPHY. Her most recent article in the JOURNAL, "The Teaching of Hypothetical Maps," appeared in the December, 1951, issue.

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Mrs. Bolge teaches the fifth grade in the Kuser school of Hamilton Township, New Jersey. This small article was prepared as a paper in a course taken from Dr. Botts, State Teachers College, New Jersey, and he had Mrs. Bolge submit the paper to us.

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Mr. Trail is a fifth grade teacher who has done graduate work at the Illinois State Normal University, Northwestern University, and the University of Illinois.

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Mr. Mathur is Assistant Master, Teacher of Geography, Mayo College, Ajmer, India. He was one of the members in the Teacher Training Program sponsored by the United States Office of Education and the Department of State in 1951-1952. Primarily these educators are to make keen observation of what we are doing in our high schools.

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Dr. Edel holds degrees from New York University and Columbia University. He is a Lecturer in The City College in New York. During the past year he has also been working with the Council on Foreign Relations as rapporteur for the Council's Discussion Group on the Mediterranean.

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Dr. Griffin served as lecturer in geography in Stanford University from 1948 to 1950 and was an instructor of geography at Teachers College, Columbia University, from 1950 to 1952. He returned to Stanford University as an assistant professor in September.

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The JOURNAL *of* GEOGRAPHY

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VOLUME LI SEPTEMBER, 1952 NUMBER 6

THE LAND OF THE FIVE SEAS*

GEORGE B. CRESSEY
Syracuse University

Thirty-two airlines serve the area between the Mediterranean, Black, Caspian, and Red Seas and the Persian Gulf (Fig. 1). A third of these are intercontinental services such as Air France, Air India, Air Ceylon, British Overseas, Royal Dutch, Philippine Air-

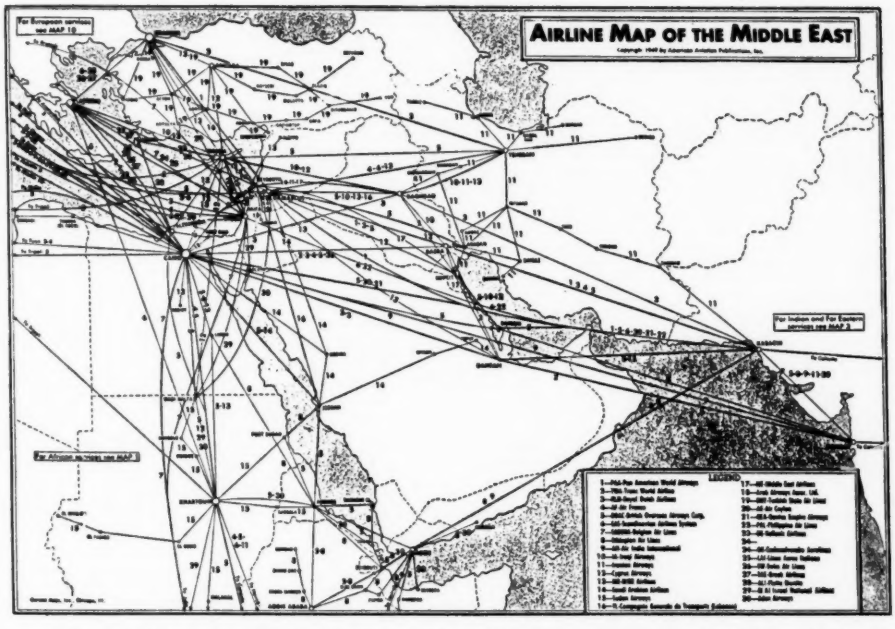


FIG. 1. Cairo and Damascus are focal points for airways to the East. With the completion of the new airport at Beirut (Beyrouth), many services have been shifted from Damascus. *Courtesy American Aviation Publications.*

lines, South African, Scandinavian, Quantas Australian, and the two American carriers, Trans-World Airlines and Pan-American.

* This paper was presented at the annual meeting of the National Council of Geography Teachers, Pittsburgh, November 23, 1951.

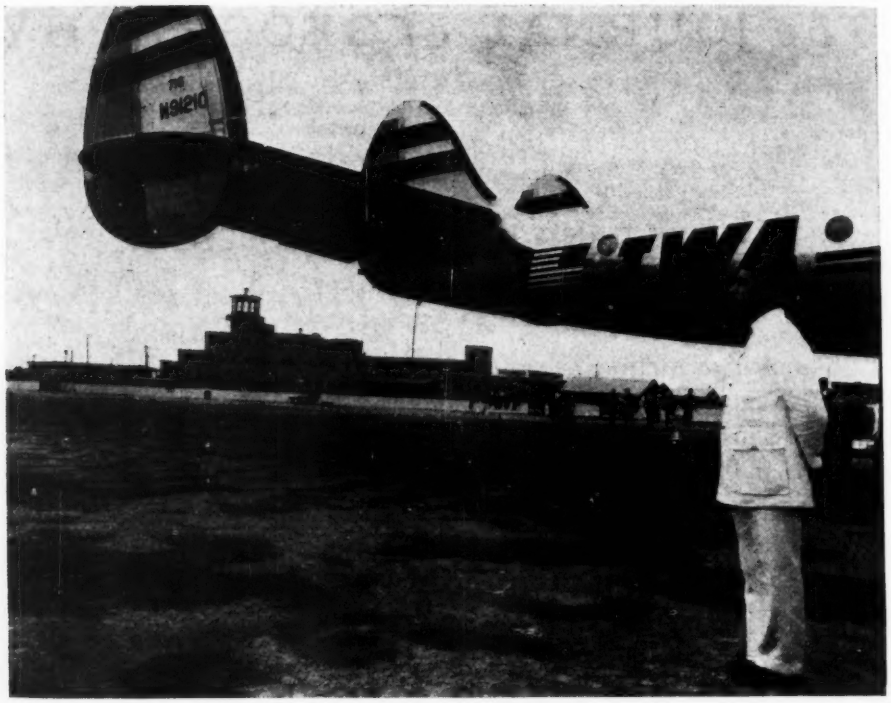


FIG. 2. The Airport at Cairo is as important for air travel as is Suez for shipping. Two dozen airlines here link East and West. *Courtesy Trans-World Airline.*

Half a dozen other airlines are extensions of European companies. Many others are local lines of whose names we rarely hear, such as the Iraqui, Middle East, Cyprus, Lebanon, or Saudi Arabian Airlines. All these have revolutionized communications in this railroad-poor land of the camel.

Cairo and Beirut are among the world's busiest airports, for thru them pass the major services which link Europe with Asia and Australia (Fig. 2). Each day hundreds of passengers pause here for a few minutes on their way between the Orient and Occident. This east-west air travel is at right angles to the north-south sea lane thru Suez, and at the same time has an obvious bearing on the traditional passenger services which use the canal. The number of passengers by air must be approaching those who transit Suez by ship.

What does one see on a flight between Cairo and the Persian Gulf? For five hours, at 300 miles an hour, there is an almost total absence of life. As soon as one leaves the last irrigation ditch outside Cairo the green of the Nile oasis instantly changes to the

brown of the desert. One hour eastward there is a glimpse of the Red Sea. Then for four hours or more there is the desolation of Arabia. One looks down from the plane at sand dunes and bare rock. If there is an occasional stunted tree or water hole it is not visible from the air. Not a trace of green is to be seen. Once or twice a keen eye will catch a group of a dozen mud houses, nothing more. This may be a place to study geomorphology, but it is not an attractive spot to make a living.

Then comes the green blue of the Persian Gulf, and one flies over the fabulous oil fields of Dhahran and Bahrein Island, with oil wells, refineries, docks, and air conditioned comfort, American style.

Or fly from Cairo northeast to Tehran, seven hours away. Here there is plenty of desert, but more of interest. Such a route provides a better glimpse of the Suez Canal, and, in peace time, of Jerusalem and the Dead Sea. It is a commentary on the size of Palestine that while one is over the Dead Sea, the Mediterranean is still in sight. Across the Syrian Desert, planes follow one of the pipe lines which bring oil from Iraq to the Mediterranean. This thin black line across the barren desert, with pumping stations every few miles, is a comfortable guide across a wilderness where one would hate to be forced down without water. Near Baghdad one crosses the thin green strips of cultivation along the Tigris and Euphrates. In places old irrigation works, long abandoned, stand out in the desert, and ruined cities recall the dramatic history of these valleys. Eastward across the mountains, snow-capped in winter, lies the barren plateau of Iran and the capital city of Tehran. Radiating down the broad alluvial fans one may notice heaps of earth at intervals of a hundred yards. These locate the shafts spaced along the underground tunnels called kanats or karez which bring irrigation water from water-bearing gravels at the base of the mountain. This route from Cairo crosses the Dead Sea depression, with a minus elevation of 1,297 feet, and comes within sight of Mount Demavend at 18,549 feet. This is an area of contrasts.

The Brown and the Green

The land between the Five Seas is mostly desert. Only three per cent is arable, where rainfall is slightly higher or water is available for irrigation. Sterile soils and rocky slopes elsewhere preclude cultivation. Brown landscapes prevail, interrupted by green only where streams are present, or in a few areas where winter rains

carpet the land with transitory grasses. Here man is a nomadic herdsman or a sedentary farmer, and the contest between these two has gone on since before there was history. For the inhabitants this is a land of poverty and disease, but to the outsider it spells power and wealth.

Few places are really attractive for agriculture. Some are very good, as along the Nile, but many are marginal. Yet it must be from these fragmentary oases that man will secure any increase in his livelihood. Cotton, dates and oranges plus carpets are the chief agricultural products. Except for oil, this is a mineral-poor land with no prospect of industrialization. All efforts at improved welfare are stopped by this limitation of agricultural prospects. Engineering may irrigate new lands, and fertilizers may redeem old soils, but costs are high.

People are as localized as good soil. The 75 million who live here are far from evenly distributed. Great areas are lifeless, others are overcrowded. Contrasts between great wealth and dire poverty, between sophisticated culture and superstition, are as vivid as between the green and the brown of nature. Islands of culture dot the wilderness, widely scattered and linked only by ancient caravan routes. This is a land where children grow faster than crops. An expanding population presses on a nearly stationary food supply.

Between the Caspian, Black, Mediterranean, and Red Seas and the Persian Gulf (equally to be called a "sea") lies some three million square miles, roughly the area of the United States, with half our own population.

We of the West are aware that much history has here transpired, but we lack an appreciation of the culture of the Arab or Mohammedan world. This was once the center of the civilized world; all the world is its debtor. Professor Arnold Toynbee has pointed out that 12 of the 21 great world cultures have had their origin here. Three great empires have dominated this area, the Persian in 500 B.C., the Arab in the Eighth century, and the Ottoman in the 17th century. The Arab League, formed in 1945, is a potential fourth. The Christian Crusades have their parallel in the current Zionist crusade. Only during half of the past 2000 years has this part of Asia ruled itself; invaders have repeatedly come for motives of religion, trade, colonization, or strategy. Colonial traditions are deep seated.

OIL AND STRATEGY

Why has the modern world found attractions here? Not so much for land as for strategy, and for oil. Two major seaways cross the margins, the Bosporus in the north and Suez in the south. Diagonally from Istanbul to Baghdad are railway ambitions. Modern airlines introduce new patterns. Here lie the essential avenues of economic empire. Regardless of whether these lands are important in themselves, they command the routes from the East to the West.

The contest for oil is obvious. Following the first World War, Lord Curzon remarked, with reference to the importance of fuel oil in naval operations, that the Allies had floated to victory on a sea of oil. One might paraphrase such a statement and recognize aviation by saying that during the second World War, the Allies flew to victory on a cloud of gasoline.

Reserves of petroleum are difficult to estimate. Unlike the geology of coal, no one is quite sure as to quantities until after the oil is gone. But it is clear that this area has stupendous reserves. Within Iran, Iraq, Saudi Arabia and the small adjacent areas may be fully half of all the oil on earth. The tiny sheikdom of Kuwait, smaller than New Jersey and with only 100,000 people, has some 15 per cent of the world's total. Figures for 1951 credit these areas with 48 billion barrels still in the ground, and a total production to date of 4 billion barrels. Additional reserves are demonstrated each month. In comparison with this figure of 48 billion barrels, the United States has reserves estimated at 28.7 billion, while all of South America has 10.6 billion barrels. This is truly an area of superlatives.

Production figures for 1950 read as follows:

Country	*Output in Barrels*	*Notes*	*Reserves in Billions of Barrels*
Iran	241,425,000	Record production	13
Saudi Arabia and Bahrein	199,546,638	95 wells	10
Kuwait	125,722,396	78 wells	15
Iraq	46,760,206	77 wells	9
Qatar	10,707,000	——	——

With 50 per cent of the world's reserves, this area is producing nearly 20 per cent of the output. The United States with 30 per cent of the reserves accounts for over 50 per cent of the yield. Soviet yields are less than 10 per cent of world totals.

Half of this oil moves to the Mediterranean by pipe line; the

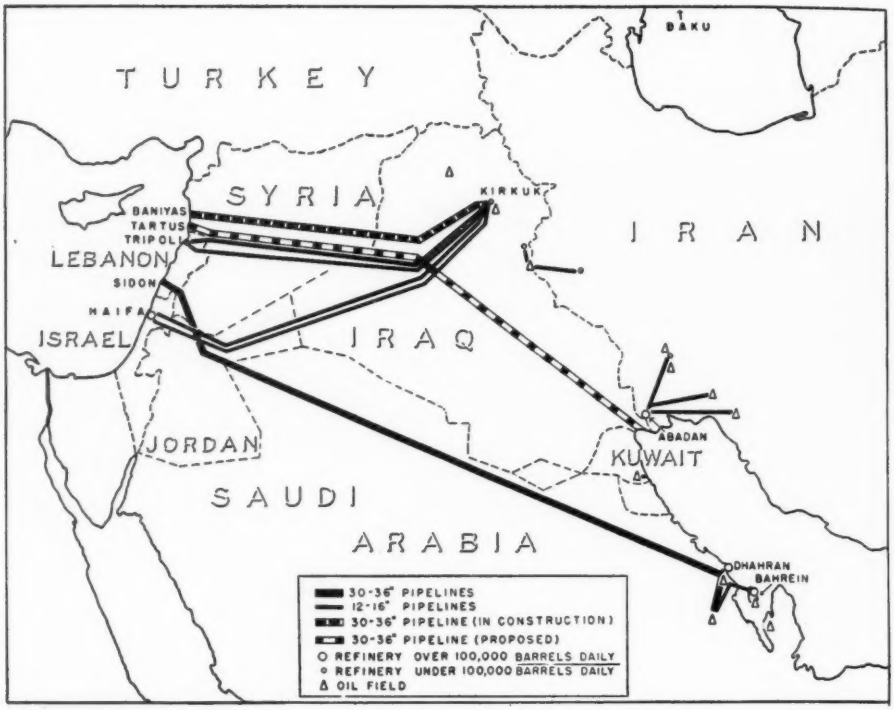


Fig. 3. Six pipelines carry oil to Mediterranean ports from Kirkuk and Dhahran, with a seventh line proposed. *Map by Don Bennett.*

remainder is shipped by tankers thru Suez accounting for three-fourths of all the south to north traffic thru the Canal. Six pipelines link Iraq or the Persian Gulf with seaports and refineries at Baniyas and Tartus in Syria, Tripoli and Sidon in Lebanon, and Haifa in Israel; an additional pipeline is proposed (Fig. 3). From the Kirkuk fields in Iraq the distance is over 600 miles, while from the Persian Gulf the distance is 1,000 miles. Three of the pipelines are 30 to 36 inches in diameter; the other three are 12 to 16 inches. Political difficulties between the Arab states and Israel have currently stopped the oil flow across Israel. The total daily capacity of these pipelines will shortly reach 1,335,000 barrels.

Foreign investments in oil run to large figures. Those of the United States total a billion dollars, chiefly in the Arabian-American Oil Company (Fig. 4). British capital totals two billion dollars, with the Anglo-Iranian Oil Company as the largest investor. The latter built the world's largest refinery at Abadan near the head of the Persian Gulf. This has a capacity of 700,000 barrels daily,

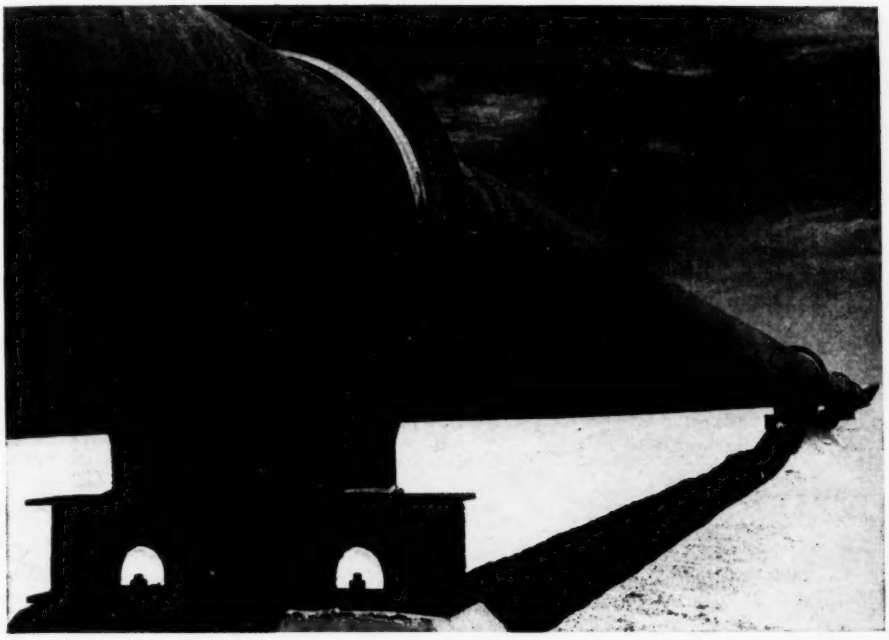


FIG. 4. The trans-Arabian pipeline stretches off to the horizon for hundreds of miles without a turn or bend. Completed in December 1950, the 1068 mile 30-31 inch diameter pipeline has been delivering 300,000 barrels of oil a day from the eastern Saudi Arabian fields to the Mediterranean port of Sidon to waiting tankers. Recently the great pipeline system handled its 100,000,000th barrel of oil. *Courtesy Arabian American Oil Co.*

largely fuel oil rather than gasoline. While the cessation of this output in mid-1951 threatened to be a severe loss to world supplies, the deficiency was more than made up by increased production elsewhere. The daily output of the Arabian-American Oil Company, often known as Aramco, currently amounts to 840,000 barrels, processed in several refineries (Fig. 5). The total output of existing wells in Iran, Iraq, and the Arabian fields approximates two million barrels a day. One can only describe the oil of Southwestern Asia in superlative terms.

The superabundance of petroleum should not suggest comparable wealth in other directions. In terms of mineral resources this is one of the poorest areas of its size. The only coal is along the Black Sea coast of Turkey. Turkey also has an important production of chromium and of molybdenum. Manganese is present in the Sinai Peninsula. Commercial deposits of iron ore are lacking. The Dead Sea is a storehouse of potassium and other salts. Hydro-electric

FIG. 5. A Saudi Arab bedouin mounted on his camel stands before the modern skyline of the Arabian American Oil Company's Ras Tanura refinery and watches several of his countrymen handling modern, skilled jobs for Aramco. Aramco employs more than 11,000 Saudi Arab nationals in all phases of its oil operations. *Courtesy Arabian American Oil Co.*

possibilities are limited. There is no likelihood of important industrialization; so far as livelihood is concerned the bulk of the population must subsist on agriculture.

There have been few decades in modern times when the Bosporus or Suez were not controversial problems. Whatever the government, the Russian Bear presses toward warm water and the open seas. This has meant an interest in the Straits, and in the Persian Gulf as well. This immediately brings British opposition.

The Suez Canal is operated by a French company, in which the British government controls the largest block of the stock but has a minority of the directors (Fig. 6). The Suez Canal Company operates on a 99 year franchise, expiring in 1968, after which the canal reverts to Egypt. Britain has long assumed the informal military defense of the Canal, and in 1936 entered into a 20 year treaty with Egypt which gave Britain the authority to station troops along the Canal during this period, that is until 1956. This treaty also contained a clause with regard to earlier termination whenever Egypt itself was able to assume the defense responsibility. This is the clause which Egypt has currently invoked, unilaterally.

THE LAND OF THE FIVE SEAS

The reader will have noticed that the terms Near East or Middle East have so far not been used. These are expressions

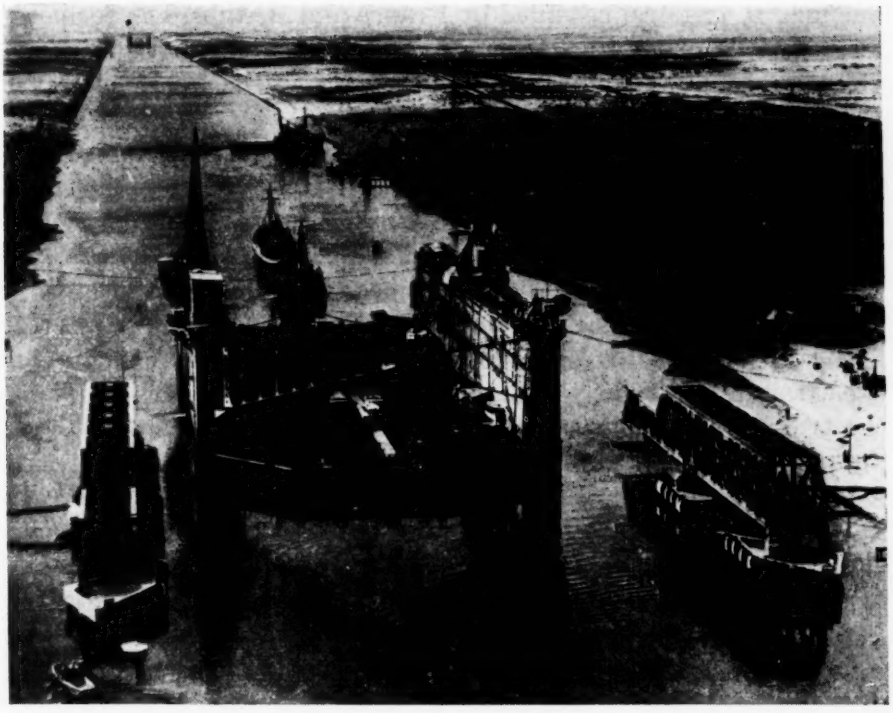


FIG. 6. The Suez Canal is operated by a French company whose concession extends until 1968. This view shows a floating dry dock, in two sections, which will accommodate ships up to 50,000 tons. The El Firdan Swing Bridge is shown in the foreground. *Courtesy British Information Service.*

which no one can define. Viewed eastward from Europe, the lands of the Eastern Mediterranean are "Near," India is "Middle," and China is "Far." Seen from the United States across the Pacific, the reverse is true. During the second World War, the British used the term "Middle East Command" to cover operations from Morocco to Iran, and the expression has unfortunately become current. One might make a case for the centrality of this area between Orient and Occident, thus the appropriateness of "Middle," but not "East." Southwestern Asia is more fitting, but does not include Egypt. It is here called the Land of the Five Seas. Since it links three continents, it might be called the Old World Bridgeland.

The four corners of the region include sizeable countries: Turkey, Iran, Arabia and Egypt. Between them is a contest zone with Syria, Lebanon, Israel, Jordan and Iraq. Since the collapse of the Ottoman Empire during the first World War, this has been a power

vacuum. It was first occupied by France and Britain. The former's control over Syria and Lebanon has ended and British control elsewhere is diminishing. Will the USSR and the USA now enter the contest for control?

Soviet interests in the Land of the Five Seas are three fold: access to the Mediterranean thru the Bosporus, the oil, and strategic protection of her weakest frontier. The Soviets have ample oil, but a country always needs more; control of these fields would require pipelines several hundred miles long which would have to cross high mountains en route to the Caspian. Strategic interest may be paramount. If the Soviet Union could control a triangular area from the Caspian to Suez and the Persian Gulf, she would cut the free world in two and provide defense in depth for her most vulnerable border.

American economic interests center on oil and our foreign policy. Mission schools and hospitals have laid a basis for friendship. Our trade is limited, but these people drink a million bottles of Coca Cola daily. American support for Jewish expansion in Israel has also started repercussions of great moment. Should our actions toward Israel alienate the surrounding Arab world and possibly throw it into the arms of the Communists, it would be a high price to have paid. We need to proceed with great caution.

Viewed as a whole, Southwestern Asia plus Egypt is fragmented and unstable. Internal resources of food and minerals are inadequate, and there is a shortage of local capital. Scattered across the deserts are unviable islands of local power, each both an asset and a liability. It remains to be seen whether the coherence of Arab nationalism, or Mohammedanism which would bring in Pakistan, can bring strength.

Why then is this a critical area? Most of it is unattractive desert, yet since the days of Alexander the Great, every world conqueror has sought its control. Here is the bridge between three continents. Oil is an obvious item today, but this does not explain the long history of conflict. In a century or two the oil will be gone, but the Land of the Five Seas will remain of central importance. The answer comes from a meaningful examination of the map. Here focus all routes from East to West. Nowhere else between the Trans-Siberian Railway and the Cape of Good Hope is there an adequate substitute. The attraction of oil will pass, the deserts will remain empty, the domestic trade can never be conspicuous, but location is of constant significance.

THE MYSTERY COUNTRY—A LESSON IN THE READINGS OF GRAPHS AND STATISTICS[1]

LINNIE B. JAMES
Forest Hills Junior High School

The following lesson is based on an eighth grade demonstration lesson held at the annual meeting of the National Council of Geography Teachers in Pittsburgh.

THE PROBLEM

The pupils were given the following statistics of an unnamed country. The problem was to discover with the aid of maps and graphs, to what country in the world these statistics belonged. A seasonal precipitation map of the world, a world physical-political map and a globe were where they could be referred to at any time during the lesson. The pupils had texts opened to a world map.

TO WHAT COUNTRY DO THESE STATISTICS BELONG

I. Area	103,400 square miles	
Population	1,834,000	
Density of population	18 per square mile	
II. Land Use	Acres	Percentage of cultivated land
Total area	66,182,000	
Unimproved land (Native grasses, bush, unproductive	46,079,000	
Total cultivated land	20,103,000	
Pasture	17,089,000	85.0%
Field crops	1,904,000	9.5%
Plantations (conifers, eucalyptus)	871,000	4.3%
Orchards (90% apple, pear, peaches)	19,000	.1%
Lying fallow	123,000	.6%
Other cultivated land (market gardens, nurseries, private gardens)	97,000	.5%

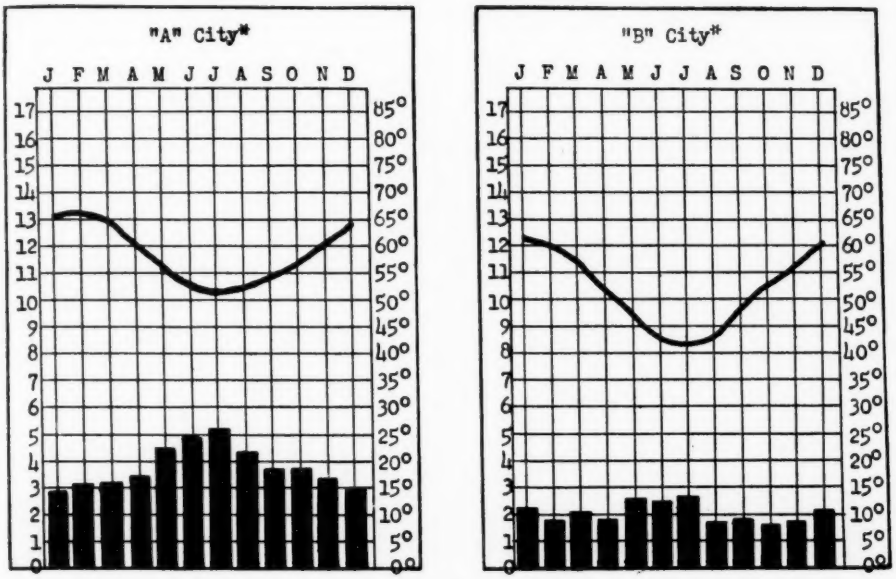
III. Distribution of Important Crops Crop	Acres	Percentage of each crop to total crop area
Total	1,904,000	100%
Grasses and clover for hay and silage	559,956	29%
Turnips and swedes	400,486	21%
Green fodder	246,336	12%
Oats	177,252	9%
Grasses and clovers for seed	142,206	7%
Wheat	125,439	7%
Barley	73,275	4%

[1] This paper is based on a Demonstration Lesson taught at the annual meeting of the National Council of Geography Teachers, Pittsburgh, November 23, 1951.

Peas	52,827	3%
Lucerne for hay and ensilage	46,303	2%
Potatoes	21,887	1%
All others		5%
IV. Pastoral Production		
Horses	203,800	
Beef cattle	4,716,000	
Sheep	32,500,000	
Dairy cattle	1,713,000	
Pigs	548,000	
V. Exports		
Total Exports		$467,042,000
Wool		137,974,000
Butter		101,404,000
Frozen lamb		61,808,000
Cheese		39,458,000
Hides and skins		32,850,000
Frozen beef and veal		14,574,000
Tallow		7,345,000
Sausage casings		6,814,000
Milk (dried and preserved)		6,147,000
Seeds, grass and clover		4,380,000
Pork		4,022,000
Peas		3,848,000
VI. Imports		
Total Imports		$414,495,000
Textiles (cotton, linen, silk, woolen)		73,190,000
Machinery		59,310,000
Motor Vehicles and tires		42,385,000
Metal Manufactures other than machinery		38,038,000
Paper and stationery		24,050,000
Clothing		17,208,000
Drugs		13,669,000
Manufactured yarns and fibers		12,629,000
Petroleum		9,045,000
Sugar		8,172,000
Bags and sacks		7,016,000
Tea		6,778,000
VII. Chief Industries		
Meat freezing and preserving		$130,355,000
Butter, cheese, condensed milk		101,443,000
Electric and gas industry		39,809,000
Coach building and assembling		33,636,000
Clothing		33,301,000
Saw mill, sash, and door making		28,384,000
Printing and publishing		24,868,000
Furniture		13,079,000
Footwear		12,938,000
Tin ware and sheet metal		10,993,000
Fell mongering, wool scouring		12,661,000

Two-thirds of the factories have 10 or less employees. Only 210 factories have more than 100 employees.

Source of the above statistics. . . Yearbook of the Country studied 1947-1948.



*"A" City is Auckland; "B" City is Christchurch.

MOTIVATION

Do you like mystery stories? Do you ever listen to them on the radio? Remember how the detectives follow clues until they finally get their man? Today I am giving you some statistics to study. They are about a country you haven't studied. On these sheets are many clues as to what country it is. We are going to be detectives and find out to what country these statistics belong. You may look at all the maps and the globe as much as you want to. But wait until all the evidence is in, before you tell us what country you think it is, even tho you think you know which country it is. Even good detectives sometimes make mistakes. We shall want to prove to ourselves that we are right, over and over again. I'll ask you for the name of the country at the close of the lesson.

DEVELOPMENT

1. Look at the first page of statistics. How large is this country?
2. Do you remember the area of Pennsylvania in round numbers? Roughly speaking, how many times the area of Pennsylvania is this country?
   a. (Teacher writes on board.) *Small country about twice the size of Pennsylvania.*
3. Do we know the population of a state, county, or a city with which we might compare the population of this country?
4. What is the density of population? How does this compare with the density of population of the United States?
5. Would you say that this country is densely or sparsely populated?

b. (On board.) *Sparsely populated.*

6. Why isn't it always safe to judge a country by its density of population?
7. Now we'll see how these people use the land. About what part of the land is under cultivation?
   c. (On board.) *One-third of the land under cultivation.*
8. Now let's examine the part which tells us about the cultivated land. What do you think is the chief industry of this country? What tells you that?
   d. (On board.) *Grazing is the chief industry.*
9. What do the orchards tell you about this country? Notice what kinds of fruits are grown chiefly.
10. "Plantation" has a little different meaning in this country. It means areas of planted trees. What trees have been the chief ones planted?
11. What does "lying fallow" mean?
12. What part of the cultivated land is devoted to crops? Now if we learn what crops they raise, we'll be able to judge what kind of climate they have.
13. What can we find in III of the statistics which will tell us something about the country and the climate?
    (Most of these crops are used by livestock. If hay is grown, some parts of the country must be too cold for outside pastures in winter. Root crops, turnips and potatoes need cool moist climate. Barley needs moist climate.)
14. (Teacher explains the meaning of lucerne and swedes.)
    Why would this country raise lucerne and swedes?
15. Then we agree that some parts must have a cool, moist climate?
    e. (On board.) *Some parts of this land must have a cool, moist climate.*
16. Let's glance at IV in the statistics. What interesting fact do you find here? We'll refer to this table again so we won't stop too long now.
17. We have many countries in the world which might have a moist climate. Perhaps it will help us if we learn whether this country is in the northern or southern hemisphere. (The teacher shows them large climatic graphs like the ones shown on page 233.) These are climatic graphs of two of the cities of this country. Are these cities in the northern or southern hemisphere? How do you know? If this country is south of the equator, which of these cities is the farther south? How do you know?
    f. (On board.) *In the southern hemisphere.*
18. We still have some more clues hidden in these pages but let's glance over the ones we have so far. (Teacher reads the list of clues which she has written on the board.)
19. Now we are ready for the exports and imports. What is true of most of the exports as a class?
20. What is the leading industry as shown by this list of exports?
21. What other industries seem to be important?
22. To what factors is dairying usually related? Look at the three dairy products exported. Do you think from the kind of dairy products listed that the market would be close or far away? In what way is the raising of pigs related to the making of these kinds of dairy products? (Whey from cheese, buttermilk from making of butter.)
23. Notice the amount of frozen lamb exported. Do you recall whether the same conditions are required for mutton sheep as are required for wool sheep? (Must have better pastures for meat sheep.)
24. What must be true in regard to precipitation?
25. (Refer to graphs.) What do our climatic graphs suggest regarding the distribution of the precipitation? What effect would this have on the pasture lands?
26. The pattern of distribution of rainfall is similar in both parts where these cities are located, isn't it? "A" City is on the western side of this land, "B"

City is in the eastern part and a little farther south. Can you tell me from what direction the wind blows?

g. (On board.) *Rainfall evenly distributed thruout the year. This country receives over 40 inches of rainfall in some part. Winds blow from the west.*

27. Now let's look at the import list for more clues. What can you find about this country?

(Students bring out facts about:

Balance of trade
Class of imports
Lack of softwoods for paper
Meaning of the import of machinery
Import of sugar and tea tells that this country does not have a frost-free season
Need for bags and sacks

The large import of tea might indicate English ancestry.)

h. *The teacher puts any other clue given by class on the board.*

SUMMARY

Now let's read our clues over again to see if you think we have enough clues to tell us the name of the country.

a. Twice the size of Pennsylvania.
b. Sparsely populated.
c. About one-third of the land is cultivated.
d. Grazing is the chief industry.
e. Might be in the middle latitudes.
f. Must have a cool, moist climate.
g. In the southern hemisphere.
h. Must have good pastures for meat, sheep and cattle.
i. Precipitation evenly distributed thruout the year.
j. Exports raw materials and foods, and imports manufactured goods.
k. Other clues given by class in discussion of imports and industries.

To what country do you think these statistics belong?
You are right! New Zealand is the country!

CONCLUSION

Now that we have found the country, our biggest job is to read about this country and find out if our clues are right. We will want to know something about the people who live in this lovely land. New Zealanders have been described as people who work hard and play hard. We'll want to find out more about them, what games they like, what their favorite foods are, and what their school life is like. Tomorrow we shall search for more material about this country.

You can imagine the surprise and delight of both teacher and pupils to have a gentleman from New Zealand step out of the audience at the close of the lesson and talk to the class about his homeland.

FLANNEL MAPS—AN ACTIVITY IN FIFTH GRADE GEOGRAPHY

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ORIGIN OF THE ACTIVITY

My fifth grade class had only one, old, dilapidated map of the United States which would not stay on its roller. It was a nuisance and a danger to use, for it was constantly falling down and narrowly missing someone's head.

Our school system has made great use of the flannel board in number work in the primary grades. I believed that a flannel map in geography would have a real appeal for my fifth graders. It would be an interesting way to teach or illustrate a geography lesson.

CONSTRUCTION

The first problem in making a flannel map was how to get the outline on flannel. There was nothing I knew of then that would make a clear, neat outline on flannel. Therefore, I had to embroider the outline of the map. Around Christmas time, I learned of a textile paint called the "Tri Chem Tube"* paint that was as easy to use as a ball-point pen. It was a plastic paint that would write on flannel with a clear outline and would not wash off. Now the making of a flannel map is a matter of minutes not hours. Even the children can make them.

To make a flannel map, you need a piece of outing flannel and a board of either thin plywood or heavy cardboard. (I have used homosote or beaver board.) The map is traced on the flannel by means of a carbon paper. Since Tri-Chem paint tubes come in all colors, the map can be made very attractive. Blue can be used for rivers and lakes, red for inland boundaries. The flannel map is then tacked on the cardboard so that it is smooth and firm.

USES OF THE FLANNEL MAP

1. **Location of states, rivers, lakes, cities, etc.** A class committee decides what they wish to illustrate on the map. The names are then printed on small pieces of white construction paper and cut

* Tri Chem Tube paint is available in a small kit of four colors and can be secured in most paint stores. Tri Chem, Inc. is located in Kearny, New Jersey.

out. On the back of each strip a tiny square of flannel is pasted. This material will adhere to the map without the use of adhesive.

2. **Physical features of a map.** Pieces of flannel are cut to represent mountains, plains, plateaus, etc. They are colored with crayons. Children put them in place on the map.

3. **Product map.** We are currently working on a product map of the North Central States. The children are making illustrations of the products found in these states. They are preparing the illustrations for use on the map.

4. **Test purposes.** A series of numbered circles are prepared with the little piece of flannel pasted behind each one. For a test, these numbers are placed on the map and the children are told to identify the places.

5. **Other uses.** The uses of this type of map appear endless. It can have a varied and constantly changing appearance. Scenes can be used illustrating different kinds of vegetation, homes, industries, etc.

VALUE OF THE FLANNEL MAP

1. **Source of recreation.** The children love to play with this map during their spare time.

2. **Source of remedial instruction.** I really believe, in a sense, there is a kinaesthetic, tactile type of learning which takes place when a student uses this type of map. For example, I have found that even the poorest student can place the names of states and cities after playing with the map. The dullest child enjoys using it.

3. **Source of creative art work.** The children need only a suggestion to get them started. They use their own imaginations and come up with many more ideas of their own.

4. **Economical, interesting and constantly changing.** You can use the same flannel map to illustrate or to stress any type of geography map work you wish to teach.

5. **Durability and storage.** After using these maps, they can be washed, folded, and easily stored.

MAPS IN THE PRIMARY GRADES

ROBERT WAYNE TRAIL
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A map is a shorthand record of some geographical information which divulges knowledge to those trained to interpret its symbols.

Unfortunately, too few have been trained to interpret maps properly. All of us know of examples of geographic illiteracy. Witness how confused many adults are with the newspaper weather forecast map or how baffled they sometimes are by the simple road map. Notice that our secondary students find even plain maps difficult to comprehend. And recall the dismay and dislike of maps by fourth and fifth graders when they are confronted with maps without preliminary training in reading map symbols.

Using and making maps should be developed in the lower grades. We must not expect the intermediate grade children to successfully develop an appreciation for maps or the ability to read them unless there has been prior teaching. We do not expect the fifth grader to be able to do long division until he has first learned the multiplication tables. There is also a definite sequence of learning in mapreading. The student must first learn to use symbols and develop the idea that actual things may be represented by these symbols. The ability to use maps should be a continuous process, a continuity from the primary grades on up.

We have, as teachers, also failed somewhat within the "modern" approach in the study of the Social Sciences! We have sometimes relegated geography to an inferior position with map study the fag-end of this disembodiment. However, the alert teacher is aware that maps may be used not only in geography but in science, civics, agriculture, history, mathematics, and in other subjects.

The interpretation of maps is essential to students if they are to understand their community, state, nation, and if they are to be informed and understanding world citizens. The place to begin this training is in the primary grades of the elementary school.

MAPS IN THE EARLY PART OF THE PRIMARY PERIOD

The primary grades should be the place for preparing mapreading readiness. The precise time a student really begins to read cannot be definitely stated; similarly, no attempt should be made to stress the precise grade placement for the attainment by the pupils of any specific map understanding. The classroom teacher

can best sense when her pupils are ready to learn a particular thing. However, the teacher should know that during the primary period there are several things that her students can learn and need to know about maps.

A prerequisite for map study is an idea of direction. The teacher might refer to the doors of the school as the West Door, or the East Door. Call attention to Miss Smith's classroom as being north from them. The directions may be marked on the floor, or even the ceiling; and the new teacher, at the beginning of each new school year, should call the students' attention to directions in a similar manner. Have the students note the place of sunrise, sunset, and the sun at noon. The next step in learning directions would be the use of a compass and the meaning of arrows on a map.

After directions are known, the teacher might take a picture of some well-known area and make a map of this area. A picture from the students' reader may be reproduced on a map. But whichever picture source is used, have the pupils discover that things on the map represent things in the picture. This is of course work done largely by the instructor. Such an activity shows the pupils that signs and symbols may stand for actual things. This also shows that a map is a picture of an arrangement of things.

The play-blocks that many primary pupils have, may be used in learning about maps. The blocks may represent the homes of the students when they are placed on a large map of their school's neighborhood. These lettered blocks make this doubly interesting for the "B" block may stand for Bill's house—the "T" block might be Tom's home, etc. This activity illustrates that big things may be represented by smaller things. Also, distances will be noted by the students and they will learn that some places are farther away than others. Such an activity also shows that geography enters into the living conditions of children just as geography affects adult activities.

Following the play-block activity, the students may draw maps of their own immediate neighborhood. Simple squares and a few other simple symbols are sufficient. Details and scale should not be stressed. The teacher can find something good in each map to praise and thus encourage the pupil. This first map will not show specific exactness and such should not be expected. More important, it will show somewhat the relation of one object to another. Too often these early map activities are too long; therefore, one must remember that the primary pupils' attention span is short.

The primary teacher might take her pupils for a walk around the school block. Upon returning to the classroom, the pupils may make a map of this block. This map could be made on a large sheet of paper on the floor.

Some instructors begin map making by allowing the students to draw a map of the classroom or the school yard. Such maps show the relation of one thing to another and the concept of labels and symbols. There is nothing holy about beginning map making with the classroom or the school yard, but these are good choices since the class is so familiar with them. Pupils need to learn and have a feeling for their own backyard before they can begin to comprehend the larger world beyond.

During the art period, the children might draw a map-picture of "Where I Live" showing their house and neighbors. This is a practical activity enjoyed by most primary children. Many teachers get such "pictures" made by their students without realizing the map-reading readiness significance of the drawings.

By all means have a sandtable in the primary room, for it is an excellent audio-visual aid. By using the sandtable, many natural features of the primary pupils' environment may be explained. With sand, glass, colored paper, a few toys, wood, etc., the teacher may illustrate the meaning of the terms valley, river, creek, lake, island, and other items representative of the local environment.

The instructor should use the mimeograph to make a number of identical maps for class study. In the primary, such a map would have the four cardinal directions placed prominently, show the streets, homes, churches, etc. of the students' section of town. A copy would be given to each child. This is followed with questions by the teacher somewhat as follows: "The Drug Store is what direction from the school?"; "Jane lives how many houses away from Larry?"; or "What street is Oak School on?"

The primary pupil on his way to and from school, church, movie, store, etc. soon learns his way. In this manner he learns of routes of travel. Having this knowledge, he may be interested in making a map of this larger world of his rather than one of the classroom or school plant. Capitalize on this interest when aware of its being present.

MAPS DURING THE LATTER PART OF THE PRIMARY PERIOD

The elementary teacher should bear in mind that maps are es-

sential, maps are interesting, maps are attractive, and that maps may be a lot of fun for both pupils and teachers.

After the students have learned the geography of their own immediate environment, they are ready to take the next step and learn about other near-by areas. Excursions are splendid activities in gradually unfolding basic geographic understandings to the pupils.

One second grade teacher takes her students on a 26 mile train ride during the latter part of the year. She teaches them to look for things along the way such as a pond, lake, river, hill, and direction of the sun when leaving and returning. Back in the classroom they talk of their trip and invariably some make a map of the route without the teacher's prompting. Then map making seems to become contagious! Some road maps are soon brought to school and the teacher is shown the route of travel. The road maps are then used to satisfy the students' curosity about other towns within the state. For example, the students learn that James moved farther when he moved from Cairo to Taylorville than did Sandra who moved from Decatur. Other students will bring a number of road maps wishing to tell the route that their family took on a trip.

Another teacher makes a map of the school yard, pretending the sidewalks are highways and they are appropriately marked with signs (such as route 29 etc.). Then the sidewalks out on the yard are actually marked with signs and certain spots are designated as nearby cities—Taylorville, Decatur, Springfield, and Pana. Then the pupils go outside to the "highways" and take "trips"—various trips which are arranged by the teacher at first on the mimeographed road maps.

If floor space and type of floor are suitable, the teacher might make a large state map on the floor. Some of the more important cities would be properly located and the main highways should be colored according to the type of road it is, with the coloring explained in a legend in the corner of the map. The highways should be marked with appropriate signs, and wide enough that the children's smaller toy cars may traverse them. Finger-print paints may be used so the map may be washed off the floor later. Similar plans may be used on the blackboard or on a large, low table. This map will be used frequently by the students if given the opportunity.

After learning about their state map, the students may advance to the United States map. A beginner's United States map should be in all primary classrooms. A simplified political map of the blackboard type is very desirable. After their own state, show the children their neighboring states. Use this map to teach the meaning of symbols to insure map-reading readiness. It may be used to teach the meaning of such terms as state, nation, country, lake, island, peninsula, and meaning of colors on a map. Get the idea across that a map may portray but a simple scene which may readily be seen. In contrast a map, such as a state or United States map, is still a picture of a much larger scene—too large for a photograph, yet luckily it may be pictured by a map. These larger maps tell an interesting story to those who are able to read them. This larger view and understanding on the part of the students helps them to read maps of a more complex nature in their intermediate grades.

Map study may be made interesting in many ways. This should be one of the main objectives since geography for too long a time has been a greatly disliked subject by many students. In the primary rooms, there should be "Puzzle Maps" of the United States for use at the students' pleasure; in some schools there are several puzzles of the United States map which are used for speed contests as they are put together. Such maps may be purchased at the dime stores at very little cost and these maps help the students to learn the location of states in relation to one another.

A way to get the primary pupils of this latter period to make a United States map is by making its construction appear easy and possible. Many primary students on their first adventure in making a United States map are discouraged; to them it is a complex undertaking, but it need not be. Prior teaching should have consisted of map-reading readiness, and the new undertaking should be well explained and made simple by the teacher. Students of this age level (Latter Primary) know what a square, rectangle, or triangle is when they see it, even if they can't tell the names of these shapes. They can tell the differences in these shapes. The teacher could draw a rectangle on the blackboard, telling the students to look at it. Then have them to look at the blackboard outline map of the United States. Tell them to notice that the United States is longer than it is wide. Call attention to the rectangle again and note it too is longer than it is wide. Then have them close their eyes after again looking at the blackboard outline map and see if

they can picture the similarity. Next help them see the differences but only a few at first. Then have them draw their own United States map. Stress that they aren't expected to be real artists; however, praise their efforts and find something good in each student's product. Surprising results will come from teaching this way. The fourth grade teacher who makes the group conscious of the size, shape, etc., with this method won't find her students placing Lower California and the Gaspé Peninsula in the United States as is very often done.

The use of the square, rectangle, and triangle could be used in the intermediate grades even more successfully. The triangle could result in a map of South America, a rectangle would be used for Australia and so on.

In the latter period of the primary grades, there should be a big supply of outline maps. These should be left out where the students may select one at any time. In the stacks of outline maps, have copies of your state and United States maps. Many teachers will be surprised to see what the students will do with such maps with their own initiative. These primary students, with liberty to make their own maps, will on their own go far ahead of their grade level in learning map symbols and map reading.

Flat maps used alone often give the wrong ideas to beginners; therefore globes should be used. The globe and maps used frequently, and indeed whenever pertinent to a particular study, will add greatly to the students' geographic concepts. Thru use of the globe, third graders may learn the meaning of sphere, hemisphere, continents, islands, oceans, poles, and the equator.

If there is but one globe in the room, have the students bring a ball. Then when each child has his own "globe," have them locate the north and south poles on it. Mark the poles with a piece of chalk and then draw a line around the middle to represent the equator.

Use the globe to explain the axis and show the rotation of the earth on its axis with a flashlight or candle serving as the sun. Use the globe to teach that north is not up and south is not down.

This globe in the primary classroom should be a simple one with markable surface. One large globe and a number of small desk size globes is an ideal supply that few classrooms have. Yet the alert and versatile teacher may do very well in spite of poorly equipped classrooms by using inexpensive materials.

Conclusion

Learning to read maps is a slow process, and a complete understanding of maps is gained only by advancing step by step from the simple to the complex. Our students should not start under a severe handicap by being confronted with maps for the first time in the intermediate grades. They should be prepared for map study in the primary grades. After map-reading readiness is attended to in the primary, the intermediate grades must continue map study. The upper elementary grades and high schools also have a responsibility in reading maps, for it is a continuous process.

Our teachers are overworked, and it follows that something is to be left out. Indeed, geography is unconsciously (on the part of the teachers) being slighted. It is not altogether their fault, for geography has not been a part of, or has been but a small part of, their training since their own elementary school days. Even then in their own grade school days, map study was not logically arranged and too often was little more than memorization, drill, and drudgery! Also, our teachers, colleges, and states certification departments do not require much geography; and where there is a high school teaching geography, generally they excuse themselves with one course in "Commercial" geography.

It is little wonder then, that many primary teachers do not attend to map-reading readiness at all. A few conduct activities that are conducive to readying students for map study—yet fail to stress or call attention to the geographic significance of these activities. But a little reflective thinking should convince one that the primary period is the place to begin training map readers.

CONSTRUCTION OF A SIMPLE MODEL FOR TEACHING INTERPRETATIONS OF CONTOUR LINES*

DAN MAL MATHUR
Mayo College, Ajmer, India

Set a lump of ordinary clay on a wooden board and, with the help of a chiseling knife, carve out any sort of surface features you like, such as peaks; spurs; valleys; steep, gentle, concave or

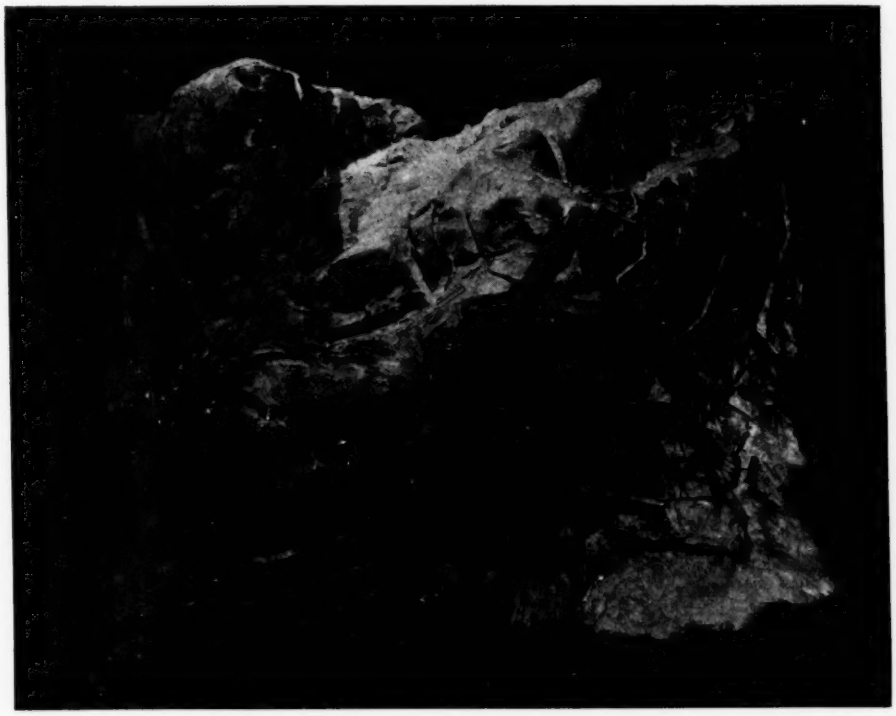

FIG. 1.

convex slopes; etc. (If modeling clay is available it may be used.) This can be easily done by the teacher in front of his class in about ten minutes if care is taken to keep the model simple and devoid of complicated land-forms.

*"I very much appreciate your suggestion regarding pooling of our experiences of inexpensive teaching aids and read with interest about the simple and clever device used by Mr. James Hamilton for teaching contours. I have used a similar device for my boys at the Mayo College, Ajmer, India, and enclose a description of it for publication in your JOURNAL if you think it worthwhile." Quotation is from Mr. Mathur's letter (Editor's note).

FIG. 2.

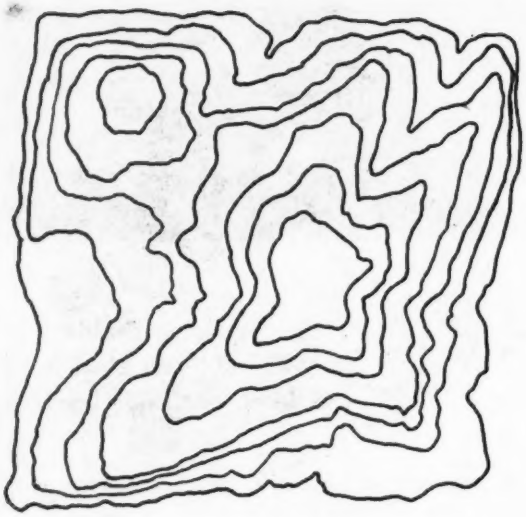

FIG. 3.

After this, let two boys help you hold a thin steel wire tight and parallel to the surface of the table on which the model is placed. The height of the wire above the surface of the table can be adjusted by lowering or raising the ends which are looped around foot-rules held vertically. By adjusting the height of the wire just below the highest point of the model and pushing the model along with its wooden base between the two foot-rules, a slice from the top of the model can be taken off and set aside for drying. By lowering the wire a half inch successively and repeating the above process, the whole model can be sliced off into layers of equal thickness (Fig. 1). Dry the layers of clay. On reassembling the dried layers, we have the complete model clearly marked with contour lines (Fig. 2). It is necessary to make holes thru the assembled model to hold the various layers and prevent them from slipping out of place. Vertical pegs or spikes are fixed in the wooden base over which the layers may be slipped. For greater strength and repeated use year after year, these layers can be fired in an oven.

Now, starting with the bottom layer first, we trace its outline on a sheet of paper (Fig. 3). Then we place the second layer within the outline of the first and trace around it. Doing the same with other layers, one by one, we will obtain a topographical map of the land-forms represented by the model.

By comparing the model and the topographical map, it will become extremely easy for children to grasp simple basic ideas concerning contours and their relation to surface features.

Figs. 1, 2 and 3 are photographs of the model and its topographical map, respectively. This model was prepared at the Ceramics Laboratory of Indiana University. I would like to express my gratitude to Miss Constance Kettler and Mr. Palmers for all the assistance and facilities they gave me in its construction.

GEOGRAPHY AND WORLD AFFAIRS

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College of the City of New York

Ever since Soviet-American amity entered its sharp postwar decline, public discussion of the relations between these two powers has turned increasingly to a single factor. In a frantic effort to find *the* answer to the current crisis, an ever-growing portion of our citizenry seems to have settled upon "ideology" as the basis for every point at issue. Other influences are sadly neglected. Economics becomes a tool of ideology rather than a causal factor, and more earthly considerations such as geography fade completely from view.

Many Americans forget that this last factor—geography—was more than anything else responsible for the early adoption of that policy which has come to be known as isolationism. True, the desire to keep out of European politics and European wars was instrumental in the formulation of this policy. But all the desire in the world would have been to no avail without the helpful presence of a three-thousand mile water frontier which *allowed* the United States to assume a politically isolated position from the very first years of the Republic.

Now that we have revoked this earlier decision and declared ourselves participants in world affairs it seems reasonable to suppose that in our thinking of other continents we give some importance to their physical aspects. Even the annihilation of distance by the airplane does not eliminate the influence of position and location. The experience of France as an immediate neighbor of Germany is still a vital factor in the current French attitude toward the rebuilding and rearming of Western Germany. A recent American newspaper reference to French "isolationists" would bring a puzzled expression to the face of the average Frenchman. Whatever the term might mean to him, it would not signify anything remotely resembling the meaning it has had in American history.

If, then, the United States is determined to retain the position of leadership established during World War II, part of the responsibility assumed is the education of the American people to world problems. Our aim has been increasingly for a better informed public, a public that will understand as well as approve the foreign policy of its country. Understanding will never be

achieved so long as the subject continues to be framed in one-dimensional terms. The extent to which such a framework can fail to take other factors into consideration is illustrated by an experiment in the field of geography conducted among some two hundred college students.

AN EXPERIMENT

In the summer of 1948 a heated argument took place in one of the corridors of New York's City College. The debate was over the advisability of continuing aid to Greece and Turkey. The writer's interest was drawn to the argument less for what was said than for what was left unsaid, the dispute turning entirely about the question of conflicting ideologies. The experience of having listened to dozens of similar discussions on the same subject raised the question as to just how much the disputants knew about Europe other than its ideological differences. Could either of these students say with certainty just where Greece and Turkey could be found? And, if so, could they illustrate the importance of the geography involved?

Curious to discover more definitely the knowledge of physical Europe which the average college student relies upon in his discussion of international affairs, the writer undertook to test a sample group of undergraduates. Classes taking the introductory government course were chosen, since this course provides one of the first opportunities for the student to consider the role of the United States in world affairs. Every semester for three years, just prior to the consideration of American foreign relations, each member of the class has been given an outline map of Europe on which only boundary lines are printed and told to identify as many of the political divisions as possible. The classes tested include some representation from almost every portion of the undergraduate body—day and evening groups, degree candidates and non-matriculated students, men and women, freshmen and sophomores, some juniors and a few seniors. A total of 219 test maps were accumulated between the fall of 1948 and spring of 1951.

RESULTS

The results must be considered in light of the fact that many New Yorkers are first- or second-generation Europeans and all live in a city equipped with the most extensive educational and informational facilities. Students of foreign birth undoubtedly

raised the average test score appreciably. Thus, the average student was able to identify correctly 16 of the 31 countries shown on the map (excluding Iceland, White Russia and the Ukraine). But a considerable amount of uncertainty was evident, particularly over the arrangement of the central and eastern European nations. This is well illustrated by the difficulty many students had in identifying the two countries whose fate was being debated so vigorously in the college halls and classrooms. Greece fared far better than Turkey, being correctly identified 61 per cent of the time. Turkey, on the other hand, was recognized by only 33 per cent of the students tested. Fewer than one-third could locate *both* these countries whose defense had been stated by the President to be vital to American security.

Less difficulty was encountered with the western nations. France and England were recognizable to almost all students. Italy, however, received the highest rating for accuracy of identification—a tribute, perhaps, to the power of visual imagery which seldom fails to identify "the boot" of Europe. Spain, Portugal and Germany also were familiar to the great majority of those tested. Elsewhere in Europe, only the U.S.S.R. ranked with the aforementioned western nations, few students failing to recognize the great expanse of the Soviet Union.

Apart from the great powers, an area pattern of familiarity and unfamiliarity is clearly evident, with western Europe again ranking high in recognition. As indicated, the Iberian peninsula falls in the group whose identification rate is better than 80 per cent. Belgium, the Netherlands and Luxemburg suffered the fate of many small states by being overlooked rather frequently and, in some cases, confused with one another.

It is interesting to find that in terms of area familiarity, a region readily identified is Scandinavia. Norway, Sweden and Finland are correctly labeled two-thirds of the time, with some errors, as in the Low Countries, the result of giving one state the name of its neighbor. Some awareness of the close historical association between Denmark and the Scandinavian Peninsula is seen in the numerous errors which place Denmark on the northern side of the Baltic. However, the Danish nation was correctly located by fewer than half the students.

Central Europe fared quite well so far as Poland and Czechoslovakia were concerned, less well in the case of Austria and Hungary. Interestingly enough, greater accuracy was achieved

IDENTIFICATION OF INDIVIDUAL NATIONS ON OUTLINE MAP OF EUROPE

Country	% correctly identified	% wrongly identified	% left blank*
Albania	31%	2%	67%
Austria	38	21	41
Belgium	46	19	35
Bulgaria	24	18	58
Czechoslovakia	53	16	31
Denmark	45	4	51
England†	92	2	6
Estonia	13	15	72
Finland	60	20	20
France	95	3	2
Germany	85	6	9
Greece	61	4	35
Hungary	34	25	41
Iceland	49	20	31
Ireland‡	67	10	23
Italy	99	0	1
Latvia	12	24	64
Lithuania	12	22	66
Luxemburg	13	0	87
Netherlands	46	13	41
Norway	68	19	13
Poland	65	22	13
Portugal	84	1	15
Rumania	32	30	38
Scotland	47	12	41
Spain	94	2	4
Sweden	68	24	8
Switzerland	64	7	29
Turkey	33	3	64
U.S.S.R.	94	1	5
Ukrainian S.S.R.	16	14	70
Wales	24	1	75
White Russian S.S.R.	5	19	76
Yugoslavia	48	22	30

* Sometimes located improperly elsewhere on the map.

† Correct responses include those in which islands were collectively identified as "Britain," "Great Britain" or "British Isles."

‡ Response allowed as correct whether or not Eire and Northern Ireland were distinguished. This distinction seldom made, the answers most frequently appearing as "Ireland."

with Poland than with Czechoslovakia. The former has never been a state of great importance in American popular thinking, while the homeland of Masaryk and Beneš was, until recently, considered a European offspring of American-type democracy. Austria and Hungary stand much lower in rank, with the latter placing second only to Rumania in being "misnamed." One-fourth of the students identified this state variously as Austria, Czechoslovakia, Rumania or Bulgaria.

Any resemblance between the test results and Balkan geography, living or dead, seems purely coincidental. There does appear

to be a general appreciation of the fact that Rumania, Bulgaria, Yugoslavia, Albania and Greece are to be found in approximately the same part of the globe. The task of placing each in its correct position, however, was more than most students could manage. A few wandered as far as Poland, and several found resting places in White Russia or the Ukraine. One or two less contemporary-minded students attempted to resurrect the pre-World War I states of Serbia and Montenegro. Turkey frequently was transported into one or another of the Balkan states, and on at least one map from each class tested she was conveniently disposed of in the Black Sea!

As the foregoing paragraphs suggest, some of the incorrect identifications were the result of confusing neighboring states. In many cases, however, a large number of countries were left blank, with no attempt at identification being made at all. This was particularly true of southeastern Europe. Albania, for example, remained anonymous two-thirds of the time, while Bulgaria was unmarked in more than half the maps. Turkey was omitted by 64 per cent of the students.

Only the various political subdivisions of the U.S.S.R. were neglected more frequently than the Balkans. The maps showed outlines of Estonia, Lativa and Lithuania, but at least half the students omitted mention of these three nations. In the case of Estonia omissions reached a peak of 72 per cent. Those who did try to name these Soviet Baltic republics confused the three more often than not. Outlines of the Ukraine and White Russia brought similarly confused responses.

Obviously, the limited group of New York college people who contributed to this experiment cannot be offered as a representative sample of the American public. Nor can they be taken as representing the national college-student body. It is to be expected that the children of an Atlantic coast "melting pot" of eight million inhabitants would show greater familiarity with America's mother continent than, say, the students tested by Professor Walter M. Kollmorgen at the University of Kansas. Nevertheless, the weaknesses exhibited by the group tested in New York are significant.

The results might be summed up as follows. Individual countries which have been of major importance thruout most of Europe's modern history usually are recognized. Beyond that, there are areas of recognition which suggest a knowledge of gen-

eral location but confusion over more precise details of position. Thus, the students' familiarity with physical Europe stops at this hazy line of regional relationships. That haziness increases as we move eastward from the Atlantic toward the one country with which every aspect of American foreign policy is most directly concerned.

CONCLUSION

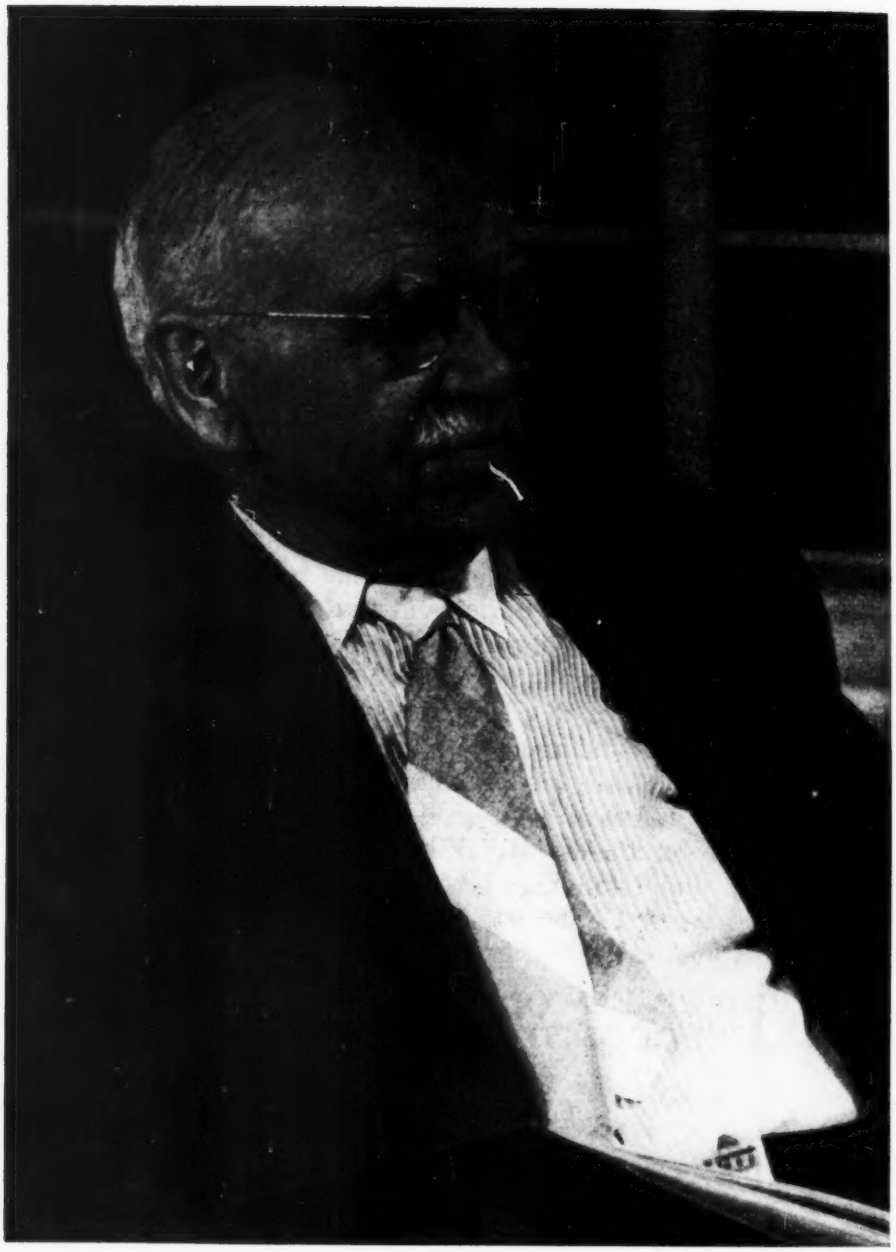
When the results of this experiment are imparted to third parties the recounting of the errors invariably brings a great deal of amusement, from the knowing smile of the professional to the appreciative guffaw of the layman whose interest in foreign affairs has no direct connection with his work and who realizes that "anyone" (even he—conceivably) might have made the same mistakes. Ignorance, of course, is always a source of great hilarity. Yet the humor of this variety of ignorance must surely be short-lived if the American public is to presume to pass upon, much less take an intelligent part in, the direction of American foreign policy.

It would be ridiculous to demand that the average citizen be thoroly familiar with the history and culture of the Balkans before he undertakes to discuss the politics of that region. But it is equally absurd for that citizen to pass judgment upon events in international politics without having at least the spatial relations of the world community clearly in mind. Having a wider knowledge of the physical globe will not, of course, bring us to the threshold of omniscience. Nevertheless, it will give us a firmer foundation for analysis and understanding than many of even our "educated" people now have.

RICHARD ELWOOD DODGE: PIONEER IN EDUCATIONAL GEOGRAPHY

PAUL F. GRIFFIN
Stanford University

Richard Elwood Dodge, founder and first editor of the JOURNAL OF GEOGRAPHY and first president of the National Council of Geography Teachers, died April 2, 1952. During the professional span of his 84 years, Professor Dodge became immensely popular as a teacher, writer and creative organizer in the field of educational geography. Moreover, his direct contributions to geography and to education were numerous and varied. The present geographers of



RICHARD ELWOOD DODGE

North America may well ask themselves, who among them is destined to make so noteworthy a contribution to the teaching of geography.

Richard E. Dodge was the first professor of geography at Teachers College, Columbia University, and, for that matter, the first in any teacher-training institution in the United States. He was one of the pioneers in championing the cause of human geography. At the same time, he was a reputable physical geographer, and eventually he was ranked as one of the Nation's outstanding educational geographers. The bulk of his contribution to educational and to human geography was made during the 21 fruitful years that he served on the faculty of Teachers College. For several decades educational geography in the United States was almost synonymous with the program which Richard Elwood Dodge initiated and developed at that institution.

Professor Dodge was born in Wenham, Massachusetts, March 30, 1868, on a farm which for seven consecutive generations had produced a Richard Dodge. On this farm, he spent his boyhood and his early school days. His early rural experiences proved of great value to him in his later study of the relations of human society to earth.

On July 4, 1876, he attended the famous Centennial Procession at Boston, commemorating the first 100 years of American Independence. This was his first real contact with affairs and events outside his own local world. A series of stimulating experiences followed, culminating in his matriculation at Harvard College.

He received the A.B. and A.M. degrees from Harvard in 1890 and 1894 respectively. In this latter year, he was appointed instructor in geology at his alma mater. Instrumental in moulding young Dodge intellectually were such teachers and fellows as Nathaniel S. Shaler, Albert P. Brigham, Josiah D. Whitney, R. S. Tarr, R. De Courcey Ward, A. H. Brooks and William Morris Davis. As he worked with these scholars, young Dodge began to find a real intellectual outlet in the geographic disciplines. Even the features of the old Dodge farm began to take on new meanings to his alert mind.

During the 1889 Christmas recess, at the suggestion of William M. Davis, Dodge attended the first sessions of the Geological Society of America, then meeting in New York City. This was the first of 29 subsequent annual sessions which he was to attend in the

next 34 years—sessions of either the Geological Society or of the Association of American Geographers.

After extensive summer field work, including participation in the famous Transcontinental Excursion of 1891, Professor Dodge decided that he would be a geographer rather than a geologist. In making this choice, he owed much to the early guidance of Shaler and Davis. In an interview which the writer had with him several months ago, Dodge said:

> As I look back, I appreciate anew the wealth of insights afforded me by Shaler and Davis. Whatever ability I have to see new relationships between facts and ideas, or to see minor items as significant . . . are due largely to them. Any skill I have in clear thinking, or in making concise, accurate statements of fact or theory, I owe to Davis in particular, for he was a master of exposition equalled by few men I have known.

Professor Dodge's duties at Teachers College, Columbia University, concerned primarily with training teachers in school geography, led him to establish in 1897, the *Journal of School Geography* (later known as the JOURNAL OF GEOGRAPHY) and to edit it for 13 years. This magazine soon became the most influential publication in the field of educational geography and is today the official organ of the National Council of Geography Teachers. Professor Dodge's aim, as stated in the introduction to Volume I, was:

> . . . to advance in every way possible the cause of good geography teaching in the elementary and secondary schools. We will try to present the newest and best information in such a form that it can be readily used by any teacher. We shall not print information unless we have every reason to believe it is fact . . . and [we] shall try to have all articles free from circumlocutions and flowery language.
>
> The *Journal* is independent of all schools of geography, of all institutions of learning, and of all book concerns. . . .[1]

In 1901, the *Journal of School Geography* was combined with the *Bulletin* of the American Bureau of Geography under a new title: JOURNAL OF GEOGRAPHY. The first issue of this new journal appeared January, 1902, advertised "to be an illustrated magazine of 480 pages to a volume and to be published monthly excepting July and August." The editors were Richard E. Dodge, J. Paul Goode (University of Pennsylvania) and Edward M. Lehnerts (State Normal School, Winona, Minnesota).

Not at all satisfied with the teaching methodology of American geography (or the lack of it), Dodge sent a questionnaire to geographers and high school superintendents thruout the United States in 1908. The purpose of this survey was to ascertain if there were any widespread concern over physical geography as it was then

[1] *Journal of School Geography* 1:1, January, 1897.

taught, and to determine if there were any agreement as to the real needs of secondary geography. He summed up his findings:

> The answers . . . seem to show a strong concensus of opinions on certain points: courses for students not preparing for college should not be restricted to physical geography as outlined in the leading texts; that the life side of geography should be emphasized in a systematic way and that colleges should accept such courses for entrance; that regional geography should be given greater attention in secondary schools; that the work could be as disciplinary as the present subject and more valuable; that commercial geography has not yet won its right to special emphasis in most secondary schools and that the laboratory [phase] of the work should in no way be decreased.[2]

This study, changing the attack on the current teaching of geography from scattered single opinions to a concerted action, had far-reaching effects; a change became apparent almost at once, for this movement toward humanized geography received further support from the discussions at a conference held at Baltimore in December, 1908, under the auspices of the Association of American Geographers.

Dodge retired from the JOURNAL's editorship in June of 1910 in order to edit the new Annals of the Association of American Geographers. He was replaced by R. H. Whitbeck, who acclaimed his courageous struggle to keep the JOURNAL in existence:

> At no small personal sacrifice, he has kept in the field a geography teacher's magazine. Only those who have some inside knowledge know how large are the drafts on the editor's time made by . . . a magazine as the JOURNAL. . . . For many years . . . Dodge has given his time and has stood behind the magazine financially; at what sacrifice we do not know. . . . We hope that he finds a partial reward in the knowledge that his work has contributed very materially to the raising of the ideals of geography teaching in this country.[3]

Professor Dodge also rendered a noteworthy contribution to the Association of American Geographers. He was a member of the council of that Association for 15 years, editor of the Annals from its inception in 1911 until 1923, except when he was president of the Association during 1915. He served as secretary for five years following his presidency. As an active and productive member of many committees, he consistently contributed wise counsel from a key position. No other person has rendered the Association such diversified and prolonged service.[4]

In addition to being the first editor of the JOURNAL, and first

[2] JOURNAL OF GEOGRAPHY, 6:241-54, 1908. [see also, vol. 6:273-84].

[3] R. H. Whitbeck, in JOURNAL OF GEOGRAPHY, 9:24, September, 1910.

[4] Stephen S. Visher, "Memoir to Richard Elwood Dodge," in the files of the Association of American Geographers.

president of the National Council of Geography Teachers, having served on the organization's advisory council for many years previously, he received in 1946 the distinguished award from the National Council for singular contributions to the profession.

His bibliography is enormous, including authorship of five books,[5] contributing-authorship of two books,[6] authorship of four articles in the *Annals of the Association of American Geographers,* 15 articles in the *Journal of School Geography,* 21 items in the Journal of Geography, and various articles in the *National Geographic, Science, Proceedings of the Boston Society of Natural History, American Journal of Science, Bulletin of the American Geographical Society, Scottish Geographical Magazine, Geographical Journal, Teachers College Record, Geographical Review, Hoard's Dairyman, Educational Review, Annals of the New York Academy of Science,* and the *United States Department of Education Bulletin.*

In the light of this phenomenally productive career, it is impossible for any geographer not to lament the loss of this great pioneer in educational geography. But, in lamenting his passing, geographers ought never to forget how much the field of geography has gained from the creative, devoted, indefatigable spirit of Richard Elwood Dodge.

[5] *Reader in Physical Geography for Beginners,* New York: Longmans, Green, 1900; *Dodge Geographies,* Chicago: Rand McNally, 1903; *Teaching of Geography in Elementary Schools* (with Clara B. Kirchwey), Chicago: Rand McNally, 1912; *Foundations of Geography* (with Stanley D. Dodge), New York: Doubleday, Doran, 1937; *Economic Geography* (with W. H. Carter, Jr.) New York: Doubleday, Doran, 1939.

[6] *General Geography and Physiography of the New York City District* (with Bailey Willis), United States Geological Survey . . . , folio 83, 1902; "United States of America," in Herbertson's *Handbook of Geography,* 1911.

NATIONAL COUNCIL AT WORK

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MAMIE ANDERZHON
Second Vice President

GEOGRAPHICAL PUBLICATIONS

Susan Myrick. **Our Daily Bread.** Interstate Printers and Publishers, Danville, Illinois, 1950. 212 pages, illustrated. $2.04. (20 per cent educational discount for two or more copies.)

Our Daily Bread by Susan Myrick is a reader for primary grades. This is a story in 14 chapters. In it Sallie visits her grandfather's farm and learns about soil conservation. These concepts are developed narratively with a good deal of repetition of words and phrases to simplify the reading:

Our food comes from the soil
Good crops require good soil
Fields need fertilizer
Water running down hill takes away some of the soil
Running water makes gullies
Grass and clover make water walk
Gullies can be stopped
Trees need protection from fire
Wild life is valuable
The farm pond is a part of the plan for soil and water conservation
Everything we wear has its origin in the soil.

Teaching suggestions are given in an appendix. Each chapter has several full-page illustrations to help the child grasp the significance of conservation and give the story reality. The subject is simply and interestingly developed and if it is supplemented with observations outdoors to match the concepts that are developed in the reader, I believe children will like it and have a basis for further studies in conservation.

RUBY M. HARRIS

Eastern Illinois State College

J. Russell Smith and Frank E. Sorenson. **Neighbors in the United States and Canada.** John C. Winston Company, Philadelphia, 1951. viii and 350 pages, illustrations, maps, charts, atlas, index.

Neighbors in the United States and Canada is a fifth grade text. It may be used as supplementary material for social studies in junior high school.

The preface gives a hint of the keynote of the text—the use and the misuse of our natural resources. This theme runs thruout the text, coming into full development in Unit IV.

After a hurried planetrip over the United States, the study of North America begins with Alaska. The reader is lead thru Canada and into the United States and its Possessions. This arrangement has the advantage of presenting simple concepts and understandings before the more complex geographic understandings needed for interpreting man's activities in the United States.

There is a certain flare in the writing of this text which demands the attention of the reader. A wealth of information points up the relationship between man's use of the land and the nature of the land itself. The writers not only achieve geographic understandings in developing this book; there is a definite plan for developing reading skills and abilities.

Maps, graphs, and charts are used to an advantage. On the whole, the pictures are well selected. However, the small size of some makes them useless for picture reading. The statistical material is adequate and the pronunciation included in the index will help young readers.

The study guides are well planned both in content and in placement in the text.

Map skills are introduced early and use of these skills is stressed thruout the book. Conservation-minded teachers will find very good source material in this text.

ANNICE DAVIS ELKINS

General Supervisor
Osceola County, Florida

A Water Policy for the American People, Vol. 1, **Ten Rivers in America's Future,** Vol. 2, and **Water Resources Law,** Vol. 3. The Report of the President's Water Resources Policy Commission, Government Printing Office, Washington, D.C., 1950.

These three volumes consisting, respectively, of 445 pages, 800 pages, and 777 pages, are concerned with the vital and life-giving water resources of the United States. Volume 1 as indicated by its title is general in character and contains a comprehensive statement of the policies which the federal government, the state governments, private concerns or corporations, and other interested organizations should adopt in respect to the water resources of the country. This general and introductory volume directs attention to such matters as the unity of the hydrographic basin, the necessity or at least the desirability of reimbursing the government for major outlays in the development of water resources, the complex aspects of watershed management, and the essential characteristics of the individual water-control programs, such as the development of hydroelectric power, reclamation, flood management, pollution of surface waters, and the availability of water for domestic and industrial purposes. Many other problems related to the beneficial use of waters are discussed at length in this comprehensive statement of the water situation in this country. Here are presented the fundamental principles and policies which should constitute a set of major objectives in the development of the water resources of the nation whether by private initiative or by governmental action.

The monumental treatment of ten great rivers of the United States including the Columbia, the Central Valley of California, the Missouri, the Rio Grande, the Colorado, the Connecticut, the Alabama-Coosa, the Potomac, the Ohio, and the Tennessee, is in large measure factual; but principles, policies, and basic concepts about water-resource development are abundantly set forth. The reader will find abundant and highly useful information about existing reservoirs, proposed developments, and significant observations about the long-range programs which involve both private and public use of the available water resources. Each of the major hydrographic areas is examined with great care and the information presented is both descriptive and interpretative. It is in this volume that the geographer will find those numerous facts so necessary in providing a full statement about major drainage basins in the United States. Both the text and the many maps make this volume a virtual encyclopedia of information about the major rivers of the nation.

The people of this country are very sensitive about their fundamental rights and privileges under the Constitution and the third volume of this series is devoted to a review of the various provisions of the Constitution and the many legislative enactments concerned with water resources. The federal government, as demonstrated by the summaries presented here, did not come by its present powers in respect to the water resources immediately upon the adoption of the Constitution. It was by successive interpretations of the Constitution and a series of Acts of Congress that the jurisdiction of the federal government was extended from the early control over the navigable waters to the very broad powers which the government now exercises in respect to the multiple-purpose water-control projects.

These three volumes on water resources are fundamentally factual and should be widely useful to a great many persons concerned with the appropriate use of the waters of the United States. The policies suggested and the philosophies that emerge from the

discussion of the development of the water resources are broadly social in outlook. There may be some who feel that private interests should be given a larger share in the plans proposed for the development of the water resources. The conflicts between the private interests and the welfare of the general public will not be easily resolved. But these three volumes should make a major contribution toward the solution of these recurring water problems.

The Ohio State University GUY-HAROLD SMITH

Encyclopaedia Britannica World Atlas. Encyclopaedia Britannica, Inc., Chicago, 1951. xii and 378 pages. $25.

This unabridged atlas is an amazingly rich and useful reference work for school, college, and office.

First come global views of the earth and a full series of world maps: political, population, language, literacy, geology, land features, major landforms, climate, natural vegetation, cities, agricultural regions, trade and transportation, etc. Especially valuable at this time are the maps and text which analyze boundary changes since 1945; and the series of plates and tables which analyze the political geography of individual countries and their dependencies and possessions, as for the United States, the British Commonwealth of Nations, the U.S.S.R., and the French Union.

Next come the political-physical maps for regions and political units. Somewhat disappointing is the use of hachures exclusively to show relief (which makes the world maps of surface features and landforms all the more essential); but the maps are thoroly satisfactory for locating places. The usual school atlas map rightly carries relatively few names, a circumstance which makes all the more valuable a reference atlas with maps which do exactly the opposite.

Perhaps least expected in an "atlas" is the extended "Geographical Summaries and Comparisons" for regions and countries. For each large subdivision of the world there are tables on area, trade, etc.; and for 177 smaller areas there are more detailed statistics in 15 tables for each area.

This atlas holds the answer to many an otherwise unanswerable question. It should have a place beside an unabridged dictionary in every school and college library, every geography laboratory, and, ideally, in every geography classroom.

J. RUSSELL WHITAKER

George Peabody College for Teachers

Erich W. Zimmermann. **World Resources and Industries.** Harper and Brothers, New York, 1951. 832 pages. $7.50.

This book, first published in 1933, has helped both economists and geographers to make their teaching more realistic. The revision up-dates the statistics and its larger page and double column format is better adapted to illustrative material. According to the recommendation on the dust jacket, "To everyone engaged in productive enterprises . . . this new book will prove as indispensable as a dictionary to a writer . . . (it) is the definitive work in its field. . . ." Set against these claims are certain undesirable characteristics. An unnecessarily complex style occasionally merges into gobbledegook; too much effort is spent on shadow boxing and knockouts of straw men.

Zimmermann states well the crux of the conservation problem—persons can be made to worry about the future, but they refuse to go bankrupt doing something about it. Resource conservation to be practiced must be made immediately profitable to the practitioner. The root of problems associated with conservation, production, corporate concentration, and pricing policies is found, according to Zimmermann, in the conflict between private interest and public interest. All too uncritically and naïvely he refers these problems to the "government" for solution. There are governments and govern-

ments. One may argue that even the Government of the United States does things at rare intervals that are not entirely in the public interest.

CLARENCE L. VINGE

Michigan State College

L. Dudley Stamp. **Asia, A Regional and Economic Geography** (Eighth Edition). E. P. Dutton and Co., Inc., New York, 1950. 372 maps and diagrams.

Whatever one may have thought of Stamp's *Asia* when it appeared first in 1929, and with some major revisions of the materials on Japan, Korea and China as the third edition in 1936, now in its eighth revision (1950) it remains much the same. Except of course that parts of Asia have changed markedly since 1936, and since the book has not, this latest eighth edition already seems out of date.

In his preface to this 1950 edition the author writes: "In the last few years far-reaching changes have taken place in most parts of Asia . . . it was felt that the attempt had to be made in this new edition to bring all accounts up to date as far as possible. . . ." Certainly these remarks are in the nature of promises which warrant the reader in expecting a revision which takes into account the fundamental changes that have occurred in much of the Far East resulting from World War II and five post-war years of partial recovery. The expectations are not met. The pre-war editions represented a geographical work on Asia containing much excellent material. Its lack of half-tone illustrations, while detracting from its appearance in the eyes of some American geographers, made possible the inclusion of a much greater number of sketches, graphs and maps which from a professional standpoint are much more valuable. However, the reviewer does not feel that it is necessary to survey the general contents of a book which has been before the public for more than two decades. Its many elements of strength, and some of weakness, are well known to American geographers thru years of use. Attention here, then, is focused on the extent to which the latest edition has been modernized and brought up to date. On this score the reviewer is disappointed.

The eighth edition of Stamp's Asia contains precisely the same number of pages and the same number of illustrations as did the 1936 edition. A very few of the illustrations have been changed and in one case two extra pages have been inserted as 425A and 425B with the result that the general pagination has remained unaltered. While the chapter heading, *The Indian Empire* has been changed to *India* and *Pakistan*, the content of the chapter in the revised edition remains much the same and there is no separate treatment of the new states and no summary of their problems growing out of separation. While there has been some updating of the statistics to 1941, data for 1930-31 are still frequent. Changes in commercial production thruout tropical south Asia growing out of World War II are scarcely recognized. The chapter on China gives no indication that that country has gone thru more than a decade of foreign and civil war with shattering consequences upon the economy of the country. Manchuria's industries and trade are dated 1933. The chapter on the "Japanese Empire" (?) still contains a treatment of the Ryukyu islands, Formosa, Karafuto, Korea and the Japanese South Sea Islands. Much more serious is the failure to make use of the wealth of new materials on post-war Japan provided by S.C.A.P. sources. The reader, as a consequence, remains ignorant of some almost revolutionary changes that have occurred in Japan's population, agriculture and industry resulting from the recent war and the allied occupation.

Stamp's pre-war *Asia* is worthy of a much more comprehensive revision and rewriting.

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